STAFFORD COUNTY SCHOOL BOARD

Agenda Consideration

TOPIC: Energy Resolution for Facility Construction & Major Renovation Designs

ITEM NO.: 4C

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MEETING: February 14, 2006
ACTION DATE: February 28, 2006

ACTION REQUESTED BY THE SUPERINTENDENT: That the School Board approve a resolution (attachment 1) to consider and when appropriate incorporate U.S. Green Building Council's Green Building Program (LEED), High – Performance School Building Program and EPA's Energy Star Performance goals in all facility construction and major renovation designs

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KEY POINTS:

1. In the United States, buildings account for 36% of all energy used, more than 65% of the electricity consumed, 30% of the greenhouse gas emissions, 30% of the raw materials used, 30% of waste output (130 million tons) and 12% of potable water consumed.

Over the last 10 years, advancements in building operations, materials and technology have become more available to building owners, managers, designers and builders who want to be more environmentally conscious, reduce energy cost and build "green." Through these advancements, both economic and environmental performances can be maximized.

U.S. Green Building Council's Green Building Program (attachment 2)

a. What is Green Building?

- Collection of design and construction strategies when utilized, significantly reduce or eliminate the negative environmental impacts of building, and provide healthy indoor space for the occupants.

b. What are the benefits implementing Green Building?

- More efficient and cost effective use of building resources.
- Significant energy and operational savings.
- Increased productivity and reduced absenteeism among occupants.
- Reduced stormwater and air pollution impact.

c. What is the Cost and Return on Investment (ROI) of implementing Green Building?

- Recent analysis of existing Green Buildings show an upfront building cost increase from 0-5% of the total construction costs. However, these same additional costs are recouped through reduced operational costs over the life of the building.

d. How "Green" is measured?

- U.S Green Building Council (USGBC) developed LEED (Leadership in Energy and Environmental Design). LEED is the nationally accepted standard for green buildings.
- LEED allots points for: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation and Design.
- A LEED project can strive for one of the following LEED award levels: Certified (26-32 points), Silver (33-38 points), Gold (39-51 points) or Platinum (52-69 points).

High – Performance School Buildings Program (attachment 3)

a. What are they?

- High-performance school buildings have three key characteristics: ***Healthy and Productive, Cost-effective, and Sustainable*.**
- These buildings are ***"healthy and productive"*** for students and teachers in that they provide high levels of acoustic, thermal and visual comfort, large amounts of natural daylight, superior indoor air quality, and a safe and secure environment. They are ***cost-effective*** to operate and maintain because their design employs energy analysis tools that optimize energy performance. They are ***sustainable*** because they integrate energy conservations and renewable energy strategies, high-performance mechanical and lighting systems, environmentally responsive site planning, environmentally preferable materials and products, and water-efficient design.

Environmental Protection Agency's Energy Star Program (attachment 4)

a. What is it?

- EPA's Energy Star Program calls on businesses and institutions across the country to take the right steps to identify buildings where financially prudent improvements can reduce energy use by 10% or more and to make the improvements now through proven methods such as low-cost building tune-ups, lighting upgrades, and replacement of old equipment.

b. Energy Star promotes three important actions:

- Determine how much energy buildings are using
- Establish efficiency improvement goals
- Make improvements

2. Staff plans to integrate the goals of these three (3) programs into all new facility and major renovations design efforts.

3. Implementation of these goals by definition is designed to reduce building operation cost and save/conserve energy. However, some features can and will add cost to initial construction or renovation but ultimately through life-cycle cost decrease operational cost,

enhance facility environment and reduce energy consumption

SCHOOL BOARD GOAL: #5 - Provide facilities that promote student learning and community support

#7 - Provide school environments where teachers are safe to teach and students are safe to learn.

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AUTHORIZATION REFERENCE: Policy 4-55 Conservation of Resources